PCV31

CEREBRAL HEMORRHAGE AND TRANSIENT ISCHEMIC ATTACK AFFECTED BY METEOROLOGICAL FACTORS

Kriszbacher I[1], Boncz I[1], Szalai M[1], Sebestyén A[2], Szili R[1], Kornya L[1], Radnai Z[1], Csoboth I[1]

[1]University of Pécs, Pécs, Hungary, [2]South-Trasdanubian Regional Health Insurance Fund Administration, Pécs, Hungary

OBJECTIVES: The purpose of our study is to investigate whether the time of onset of an acute cerebrovascular event demonstrates a seasonal variation, and we also examined the influence of certain meteorological factors on the occurrence of this event. **METHODS:** Patients admitted to the Departments of Neurology in Hungary between 2005 and 2007 with the diagnosis of a cerebral hemorrhage (n=11,604) or a transient ischemic attack (n=12,513) were examined. For data collection we used the database of the Hungarian National Health Insurance Fund Administration (OEP) on the basis of International Classification of Diseases (ICD). Meteorological data (temperature, atmospheric pressure, relative humidity) was retrieved from the National Meteorology Service. Statistical analysis was carried out with SPSS 14.0 for Windows. **RESULTS:** The analysis of meteorological data showed that an increase in average temperature on the previous day resulted in a notable drop of cerebral hemorrhage incidence during all seasons ($p<0.05$), while in case of transient ischemic attack such a decrease only occurred during Summer ($p<0.05$). We have not found demonstrable influence while examining atmospheric pressure and relative humidity. **CONCLUSIONS:** To summarize, we can say that our results indicate that the incidence of cerebral infarction, cerebral hemorrhage, and a transient ischemic attack show a typical variation depending on the season of the year. We can also say that the values of temperature may influence the development of different cerebrovascular events.

PCV32

POPULATION ATTRIBUTABLE RISK (PAR) OF MACROVASCULAR EVENTS ASSOCIATED WITH HBA1C, BLOOD PRESSURE OR WEIGHT IN PATIENTS WITH TYPE 2 DIABETES MELLITUS: EVIDENCE FROM A DUTCH COHORT

Heintjes E[1], Penning-van Beest FJA[2], Parasuraman SV[3], Grandy S[3], Pollack M[3], Herings RMC[1]

[1]PHARMO Institute, Utrecht, The Netherlands, [2]PHARMO Institute for Drug Outcomes Research, Utrecht, The Netherlands, [3]AstraZeneca, Wilmington, DE, USA

OBJECTIVES: To determine the population attributable risk (PAR) of macrovascular events associated with HbA1c, systolic blood pressure (SBP), or weight (BMI) in patients with type 2 diabetes mellitus (T2DM). **METHODS:** The population-based PHARMO database contains T2DM patients regularly monitored in primary care for cardiovascular risk factors HbA1c, SBP and BMI. In the period 2000-2008 patients without baseline macrovascular events and on antidiabetic treatment for ≥6 months were followed from start of monitoring until monitoring ended. Multivariate survival modeling of the composite outcome of macrovascular events was used to estimate the expected number of events after 5 years, either with unchanged risk factors (base-case) or with reductions in risk factors. The PAR was calculated as the number of averted events divided by the number of expected events in the base-case analysis. **RESULTS:** Mean age of 5841 included patients was 66 years (55% male), 45% had HbA1c levels ≥7%, 66% had a SBP ≥140 mmHg and 85% had a BMI >25 kg/m2. The base case expected number of macrovascular events at 5 years was 796, and 687 after reduction to target of all 3 risk factors. The combined PAR of elevated HbA1c, SBP and BMI was 14%, ranging from 5% among those with one elevated risk factor to 21% among those with three risk factors elevated. Incremental reductions of 0.5% HbA1c, 10mmHg SBP and 10% BMI led to 4% fewer events, ranging from 2-10%. The PAR of reducing HbA1c to target (7%) was 5%, ranging from 2-10%. The PAR of reducing SBP to target (135 mmHg) was 9%, ranging from 3-12%. There was no effect of reduction in BMI alone. **CONCLUSIONS:** Reducing elevated HbA1c and blood pressure levels was associated with improvements in cardiovascular risk. Even modest reductions in risk factors lead to significant reductions in macrovascular events in T2DM patients.

PCV34

IMPROVING GLOBAL VASCULAR RISK MANAGEMENT (GVRM) USING THE COSEHC CARDIOVASCULAR RISK ASSESSMENT TOOL

Ferrario C[1], Moore M[2], Simmons D[3], Colby C[4], Exuzides A[4], Panjabi S[5]

[1]Wake Forest University School of Medicine, Winston Salem, NC, USA, [2]Wake Forest University School of Medicine, Winston Salem, NC, USA, [3]COSEHC, Winston-Salem, NC, USA, [4]ICON, San Francisco, CA, USA, [5]Daiichi Sankyo, Inc, Parsippany, NJ, USA

OBJECTIVES: To report on the goal rates for SBP, plasma lipid variables, and body mass index (BMI), based on published guidelines, from data available in the 2nd quarter (Q2) post-baseline of the GVRM initiative; a 5-year project focusing on validating the COSEHC risk score through cardiovascular risk factor management. **METHODS:** The Consortium for Southeastern Hypertension Control (COSEHC) developed a risk score tool to predict cardiovascular disease (CVD) mortality in the southeastern (SE) US. This global approach to SE CVD calculates the absolute risk for 5-year CVD mortality based on: age, sex, total, HDL and LDL-cholesterol, triglycerides (TG), SBP, and evidence of smoking, diabetes, family history of CHD, and ECG-confirmed cardiac hypertrophy. Baseline data were obtained from 78,540 patients (42,707 females) across ten medical facilities. **RESULTS:** From 39,080 females and 33,144 males with Q2 data at goal for SBP (63 vs. 70%), LDL-cholesterol (41 vs. 55 %), TG (59 vs. 57%), and % of non-smokers were similar between the two sexes. Female subjects, however, achieved higher at goal targets for HDL-cholesterol (63 vs. 36% in males, $p < 0.05$) and BMI (22 vs. 16 in males, $p < 0.003$). In addition, at goal rates for SBP control correlated with improved HDL-cholesterol ($r=0.64$, $p< 0.05$) and weight values in females ($r= -0.69$, $p < 0.05$) and only weight in males ($r= -0.76$, $p < 0.05$). COSEHC 5-year absolute risk scores for CVD mortality in the entire population were higher in males [(Mean ± SD) 36.43 ± 2.26] compared to females (30.57 ± 3.38, $p < 0.0005$). **CONCLUSIONS:** The GVRM initiative provides an effective way of benchmarking risk factors in a population at high risk for cardiovascular events. The initiative is assisting health care providers to monitor risk factors at regular intervals and proactively manage the cardiovascular risk of their patient population.

PCV35

SAFETY AND TOLERABILITY OF BISOPROLOL COMPARED TO ATENOLOL IN PATIENTS WITH MILD TO MODERATE HYPERTENSION

Goyal R, Rai MK

Cardiff Research Consortium, Capita India Pvt. Ltd, Mumbai, Maharashtra, India

OBJECTIVES: The objective was to evaluate the safety and tolerability of bisoprolol compared to atenolol in patients with essential mild to moderate hypertension. **METHODS:** Studies were retrieved from Embase, Pubmed, and Cochrane databases using relevant search strategies. Randomised controlled trials which compared bisoprolol with atenolol were included according to pre-specified inclusion/exclusion criteria. The outcomes of interest were total withdrawals from study, withdrawals due to adverse events (AE), withdrawals due to lack of efficacy, any adverse events, bradycardia, fatigue, oedema and vertigo. Two reviewers independently extracted data from the included studies. Data was meta-analysed using RevMan (5). **RESULTS:** Of the 1056 studies identified, 11 studies met the inclusion criteria. In total, 624 patients were randomised to bisoprolol, and 683 were randomised to atenolol. Seven of the included studies were double-blind, three were single-blind and one was open-label study. The Jadad score of eight studies was ≥3 and were of good quality. The study duration of included studies ranged from 8-weeks to 52-weeks. Results of meta-analysis showed that with bisoprolol there was lower risk of study withdrawals [RR: 0.95 (0.79, 1.16)] and withdrawals due to lack of efficacy [RR: 0.58 (0.14, 2.37)] as compared to atenolol. Withdrawals due to AE were more in the bisoprolol group compared to atenolol. The risk of AE (any) was lower with atenolol compared to atenolol [RR: 0.94 (0.73, 1.21)]. The risk of bradycardia was higher with bisoprolol compared to atenolol ($p=0.3$). Lower risk of oedema ($p=0.3$) and vertigo ($p=0.6$) was reported with bisoprolol as compared to atenolol. **CONCLUSIONS:** This review has included the evidence to date with regards to safety and tolerability of bisoprolol compared to atenolol. This review concludes that availability of bisoprolol provides the patients with a safe and efficacious first-line therapy option in hypertension.

PCV36

HIGH DOSE AND LONG-TERM SAFETY OF SYSTEMIC CORTICOSTEROIDS IN THE TREATMENT OF POLYMYLAGIA RHEUMATICA AND VASCULITIS: A SYSTEMATIC REVIEW

Nyssen OP[1], Gauthier A[1], Schmitt C[2], Levy V[2], Cognet M[1], Aguiar-ibanez R[1]

[1]Amaris Consulting UK, London, UK, [2]GlaxoSmithKline, London, UK

OBJECTIVES: To review the evidence base for the safety of high dose and long-term usage of systemic corticosteroids (CSs). **METHODS:** Selection of studies: population-based studies involving patients with polymyalgia rheumatica or vasculitis treated with systemic CSs and reporting the incidence of diabetes, hypertension, cataract, osteoporosis or cardiovascular events. Search strategy: A systematic literature review was conducted in Medline, Medline-in-process, Embase, and the Cochrane Library up to January 2011, with very broad search terms in order to limit the risk of missing relevant studies. Data synthesis: "Key studies" were identified as assessing comparisons relevant to our study question (CSs vs. no use of CSs and/or assessment of CSs at different doses) and reporting at least one outcome of interest by treatment group. Results were summarized separately for key studies and other studies. **RESULTS:** Out of 3671 citations initially identified for screening 76 publications were selected. Few studies were identified as key: only 3 reported the incidence of diabetes, hypertension or cardio-vascular events, four studies documented the development of cataract and seven reported outcomes related to osteoporosis. Based on these studies, outcomes such as cataract and osteoporosis presented a higher rate of incidence for both indications within the CSs treatment groups, and tended to be less common when the treatment arm combined intravenous or intramuscular CSs with oral CSs than with oral CSs alone. No significant association was found for the other outcomes of interest. The magnitude of the CSs effect on the outcomes of interest varied greatly between studies. **CONCLUSIONS:** Although CSs are a cornerstone of treating polymyalgia rheumatica and vasculitis, the evidence base for their safety profile is poor, subject to a high level of heterogeneity, and the findings for the different outcomes were not always consistent across studies, demonstrating the need for further research in this area.

PCV37

PARAMETRIC CONDITIONAL NON-FRAILTY MODEL FOR RECURRENT EVENTS IN PERSONS WITH TYPE 2 DIABETES IN SWEDEN: THE EXAMPLE OF MYOCARDIAL INFARCTION

Ahmad Kiadaliri A[1], Clarke PM[2], Gerdtham UG[1], Nilsson P[1], Eliasson B[3], Gudbjörnsdottir S[3], Steen carlsson K[1]

[1]Lund University, Malmö, Skane, Sweden, [2]University of Sydney, Sydney, Sydney, Australia, [3]University of Gothenburg, Göteborg, Göteborg, Sweden

OBJECTIVES: The risk of subsequent events after a first cardiovascular event in persons with type 2 diabetes has received less attention to date. Simulation models, including risk engines and health-economic cost-effectiveness models, have thus relied primarily on estimations of the risk of first events and assumed constant transition probabilities for subsequent events. The aim of the current study is to analyze the differences in risk of having a first and a second myocardial infarction (MI) for persons with type 2 diabetes. **METHODS:** Observational data from the